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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/037,753

01/02/2002

Mario Blaum

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7577

7590

07/29/2004

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EXAMINER

FIGUEROA, NATALIA

ART UNIT

PAPER NUMBER

2651

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/037,753	Applicant(s) BLAUM ET AL.	
	Examiner Natalia Figueroa	Art Unit 2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,24,25,27-30,34-35,37-42 and 58 is/are rejected.
- 7) ☒ Claim(s) 2, 9-23, 26, 31-33, 36 and 43-57 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/13/02, 04/22/03</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 13 November 2002 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

2. The information disclosure statement (IDS) submitted on 22 April 2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

3. Claim 5 is objected to because of the following informalities: The examiner recommends that this claim be verified and clarified as for proper claim construction and language. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1, 3, 4, 8, 24-25, 27, 30, 34-35, 37-38, 42 and 58 are rejected under 35 U.S.C. 102(e) as being anticipated by Blaum et al (USPN 6,429,986).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C.

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102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

5. Regarding claim 1, Blaum et al disclose a method for storing input groups of uncoded binary data on a storage medium, comprising receiving a plurality of uncoded data blocks in a data stream (col. 3, line 64-col. 4, line 1); generating one corresponding encoded data block for each uncoded data block (col. 4, lines 55-59), wherein an encoded data stream obtained from concatenating successive encoded blocks includes a predetermined bit pattern comprising a plurality of bits (col. 4, lines 59-65), wherein the bit pattern always occurs within a first number of bits and two occurrences of a "1" and "0" occur within a second number of bits; and storing the encoded data stream on the storage medium (col. 5, line 20-31, It is inherent that "x" is either a "0" or a "1", which allows for them to occur twice).

Regarding claim 3, Blaum et al further disclose that the predetermined bit pattern represents a maximum amplitude peak in a constrained waveform that is guaranteed to occur within the first number of bits (col. 7, lines 8-11).

Regarding claim 4, Blaum et al further disclose that the encoded data blocks are generated using an encoder table (fig. 9, 900 and 902).

Regarding claim 8, Blaum et al further disclose that the predetermined bit pattern comprises "010" (fig. 9, 900 and 902), each uncoded data block comprises eight bits, and each encoded data block comprises nine bits (col. 5, lines 42-45).

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Regarding claim 24, Blaum et al further disclose that the predetermined bit pattern is included in one encoded data block or spans two encoded data blocks (fig. 9, 902).

Regarding claims 25, 27, 30 and 34, apparatus claims 25, 27, 30 and 34 are drawn to the apparatus corresponding to the method of using same as claimed in claims 1, 3, 8 and 24. Therefore apparatus claims 25, 27, 30 and 34 correspond to method claims 1, 3, 8 and 24 and are rejected for the same reasons of anticipation as used above.

Regarding claims 35, 37-38, 42 and 58, article of manufacture claims 35, 37-38, 42 and 58 are drawn to the article of manufacture corresponding to the method of using same as claimed in claims 1, 3-4, 8 and 24. Therefore article of manufacture claims 35, 37-38, 42 and 58 correspond to method claims 1, 3-4, 8 and 24, and are rejected for the same reasons of anticipation as used above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 5-7, 28-29 and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blaum et al in view of Lynch, Jr. et al (USPN 5,173,694).

7. Regarding claim 5, Blaum et al fail to teach decoding the encoded data block by determining the decoded data block corresponding to the encoded data block.

However, Lynch, Jr. et al disclose such on (col. 4, line 67-col. 5, line 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus as disclosed by Blaum et al with the above teachings from Lynch, Jr. et al to obtain multiple decoded data blocks for an encoded data block, hence providing the user with the alternative to choose the correct decoded data for recovery.

Regarding claim 6, Blaum et al fail to teach that the encoding function is performed by a finite state code. However, Lynch, Jr. et al disclose such on (col. 5, lines 10-20 and tables 1 and 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus as disclosed by Blaum et al with the above teachings from Lynch, Jr. et al to include a finite state machine letting the user obtain multiple decoded data blocks for an encoded data block, hence providing the user with the alternative to choose the correct decoded data for recovery.

Regarding claim 7, Blaum et al fail to teach that one encoded data block corresponds to multiple uncoded data blocks, and wherein a value of at least one adjacent block is used to determine the uncoded data block that corresponds to the encoded data block corresponding to multiple uncoded data blocks. (col. 4, line 67-col. 5, line 20 of Lynch, Jr. et al).

Regarding claims 28 and 29, apparatus claims 28 and 29 are drawn to the apparatus corresponding to the method of using same as claimed in claims 6 and 7. Therefore apparatus claims 28 and 29 correspond to method claims 6 and 7 and are rejected for the same reasons of anticipation as used above.

Regarding claims 39-41, article of manufacture claims 39-41 are drawn to the article of manufacture corresponding to the method of using same as claimed in claims 5-7. Therefore article of manufacture claims 39-41 correspond to method claims 5-7, and are rejected for the same reasons of anticipation as used above.

Allowable Subject Matter

8. The following is a statement of reasons for the indication of allowable subject matter:

Claims 2, 9-23, 26, 31-33, 36 and 43-57 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record alone or in combination fails to teach or suggest the limitations in accordance with the embodiments (method, associated apparatus and associated article of manufacture) of the present invention.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following documents are cited to further show the state of the art with respect to encoding data to guarantee isolated transitions in a magnetic recording system.

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a) Blaum et al (USPN 5,999,110): Discloses a binary encoding system. b) Reed et al (USPN 6,115,198): Discloses PR4 amplitude read channel. c) Cideciyan et al (USPN 6,643,814): Discloses an m/n bits decoding and encoding system. d) Cloke et al (USPN 6,246,346): Discloses a storage system with a high-rate code system. e) McLaughlin et al "codes for Improved ...": Discloses alternative m/n codes. f) McPheters et al "Turbo Codes for PR4 ...": Discloses codes for PR4 and EPR4 channels.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalia Figueroa whose telephone number is (703) 305-1260. The examiner can normally be reached on Monday - Thursday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh N. Tran can be reached on (703) 305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER